

REMARKS

The Examiner's Action mailed on August 31, 2006, has been received and its contents carefully considered. Additionally attached to this Amendment is a Petition for a One-month Extension of Time, extending the period for response to December 31, 2006 or to the next business day, which is January 2, 2007.

In this Amendment, Applicant has editorially amended the specification, cancelled claims 18 and 25 without prejudice, amended claims 1-17, 19-24 and 26, and added new claims 27 and 28. Claims 1, 27 and 28 are the independent claims, and claims 1-17, 19-24 and 26-28 are pending in the application. For at least the following reasons, it is submitted that this application is in condition for allowance.

Applicant wishes to thank the Examiner for indicating that the subject matter of dependent claims 11 and 18 is allowable over the art of record, if rewritten in independent form. Claims 11 and 18 have accordingly been rewritten in independent form as new claims 27 and 28, which are therefore allowable.

The drawings were objected to as informal, and Fig. 12 was additionally objected to for not being labeled as 'Prior Art'. Formal drawings were already submitted on entry into the national phase of prosecution, and are presumed to have been lost or misplaced within the USPTO. Copies of these formal drawings are resubmitted herewith, together with a copy of the postcard receipt. A Replacement Sheet is submitted herewith for Sheet 6/8, in which "Stand der Technik' appearing below Fig. 12 in the German language has been replaced with

the equivalent English phrase 'Prior Art'. It is therefore respectfully requested that these objections be withdrawn.

The specification was objected to for referring to claim numbers, and has been amended accordingly. It is therefore respectfully requested that this objection be withdrawn.

Claims 1-26 were objected to for various informalities and for improper dependencies, and have been amended accordingly. It is therefore respectfully requested that this objection be withdrawn.

Claims 1-3, 9, 19-21 and 26 were rejected under 35 USC 102(b) as being anticipated by *Kumakhov '008* (US 5,497,008). This rejection is respectfully traversed.

None of the references cited in the Office Action shows a device for realizing an online element analysis. A basic feature of an online element analysis device is that the substance to be measured is conveyed past the measuring station and measuring is performed while the substance moves. So, in the present application the conveying device is a conveyer belt or a rotating table. None of the references cited shows such an online element analysis device.

For example, see ¶[003] of the present specification:

The present invention relates to a device using an online method for the X-ray fluorescence measuring. For this, *the substance flow of a continuous operation is guided past a measuring station*, provided with at least one X-ray source and at least one X-ray fluorescence detector. Devices of this type have numerous industrial uses, e.g. for an online analysis of coal used for an industrial process, wherein the share of ash or sulfur components or the shares of other special

elements are measured. Other uses are in the steel industry to determine, for example, the share of specific elements in a still hot flow of slag.

(*emphasis added*)

Claim 1 has therefore been amended to recite "a conveying device configured to *continuously* convey the substance to be measured" (*emphasis added*).

In FIG. 7 of *Kumakhov '008* a positioning system 108 is shown. See *Kumakhov '008*, column 7, line 45 – column 8, line 6:

A Kumakhov lens has a fairly long focal length and leaves an area of the sample clear for relatively large collection angles. It is therefore possible to combine a variety of measurements in one instrument as shown schematically in FIG. 7. An X-ray source 100 for illuminating a sample 106 with X-rays is connected to a source power supply 102. The sample 106 is positioned by means of a sample positioning system 108 to which the sample is connected. A first Kumakhov lens 104 is positioned between the X-ray source 100 and the sample 106 and oriented to receive X-rays from the X-ray source 100 and direct the X-rays to the sample 106. A second Kumakhov lens 110 is positioned between the sample 106 and an energy dispersive detector 112 and oriented to receive X-rays from the sample and direct the X-rays to the detector 112. A third Kumakhov lens 116 is positioned between the sample 106 and a single crystal or multilayer reflector 118. The third Kumakhov lens 116 is of a compound-curve type and is oriented to receive X-rays from the sample 106 and to direct a quasi-parallel beam of X-rays to the single crystal or multilayer reflector 118. A fourth Kumakhov lens 120 is positioned between the single crystal or multilayer reflector 118 and a wavelength dispersive detector 122. A computer control and analysis system 126 is connected to first and second detector electronic units 114,124 associated respectively with the energy dispersive detector 112 and the wavelength dispersive detector 122. Beyond showing a do-it-all instrument, this figure summarizes the variety of measurements that can be carried out either singly or in combination.

(*emphasis added*)

Consequently, the sample in *Kumakhov '008* is to be positioned in a particular position where it is to be measured, not continuously conveyed past a

measuring station. In *Kumakhov '008* it is really necessary to have an exact position of a sample, since the X-ray guiding elements are lenses 104, 110, 116, 120, so it is essential to have an accurate position of the surface in relation to the lenses. Positioning to this degree of accuracy is not possible if a sample is to be continuously conveyed, because then the surface of the sample moves constantly and the distance between the surface and the X-ray guiding elements changes all the time.

Thus, *Kumakhov '008* fails to teach or suggest "a conveying device configured to *continuously* convey the substance to be measured" as recited in claim 1.

Claim 1 therefore patentably defines over *Kumakhov '008* and is allowable, together with all claims that depend therefrom.

Claims 4 and 5 were rejected under 35 USC 103(a) as being obvious over the combination of *Kumakhov '008* with *Kumakhov '869* (US 5,192,869). This rejection is respectfully traversed.

Claims 4 and 5 depend from claim 1, and as *Kumakhov '869* fails to overcome the deficiencies of *Kumakhov '008* with respect to claim 1, claims 4 and 5 are also allowable for at least the same reasons that claim 1 is allowable.

Claim 6 was rejected under 35 USC 103(a) as being obvious over the combination of *Kumakhov '008* with *Langhoff et al.* (DE 4408057 A1). This rejection is respectfully traversed.

Claim 6 depends from claim 1, and as *Langhoff et al.* fails to overcome the deficiencies of *Kumakhov '008* with respect to claim 1, claim 6 is also allowable for at least the same reasons that claim 1 is allowable.

Claims 7, 8, 10, 12, 13 and 23 were rejected under 35 USC 103(a) as being obvious over the combination of *Kumakhov '008* with *Hendee et al.* (US 2,837,656). This rejection is respectfully traversed.

Claims 7, 12 and 8-11 (corresponding to original claims 7, 8, 10, 12, 13 and 23 respectively) depend from claim 1, and as *Hendee et al.* fails to overcome the deficiencies of *Kumakhov '008* with respect to claim 1, claims 7-12 are also allowable for at least the same reasons that claim 1 is allowable.

Claim 14 was rejected under 35 USC 103(a) as being obvious over the combination of *Kumakhov '008* with *Nakahara et al.* (US 5,305,366). This rejection is respectfully traversed.

Claim 14 depends from claim 1, and as *Nakahara et al.* fails to overcome the deficiencies of *Kumakhov '008* with respect to claim 1, claim 14 is also allowable for at least the same reasons that claim 1 is allowable.

Claims 15 and 16 were rejected under 35 USC 103(a) as being obvious over the combination of *Kumakhov '008* with *Kojima et al.* (US 2001/0021240 A1). This rejection is respectfully traversed.

Claims 15 and 16 depend from claim 1, and as *Kojima et al.* fails to overcome the deficiencies of *Kumakhov '008* with respect to claim 1, claims 15 and 16 are also allowable for at least the same reasons that claim 1 is allowable.

Claim 17 was rejected under 35 USC 103(a) as being obvious over the combination of *Kumakhov '008* with *Kojima et al.* and *Kissinger* (US 3,327,584). This rejection is respectfully traversed.

Claim 17 depends from claim 1, and as *Kojima et al.* and *Kissinger* fail to overcome the deficiencies of *Kumakhov '008* with respect to claim 1, claim 17 is also allowable for at least the same reasons that claim 1 is allowable.

Claim 22 was rejected under 35 USC 103(a) as being obvious over the combination of *Kumakhov '008* with *Hossain et al. '039* (US 5,778,039). This rejection is respectfully traversed.

Claim 22 depends from claim 1, and as *Hossain et al. '039* fails to overcome the deficiencies of *Kumakhov '008* with respect to claim 1, claim 22 is also allowable for at least the same reasons that claim 1 is allowable.

Claim 24 was rejected under 35 USC 103(a) as being obvious over the combination of *Kumakhov '008* with *Miersch et al.* (DD 291420 A5). This rejection is respectfully traversed.

Claim 24 depends from claim 1, and as *Miersch et al.* fails to overcome the deficiencies of *Kumakhov '008* with respect to claim 1, claim 24 is also allowable for at least the same reasons that claim 1 is allowable.

Claim 25 was rejected under 35 USC 103(a) as being obvious over the combination of *Kumakhov '008* with *Hossain et al. '620* (US 5,754,620). This rejection is respectfully traversed.

Claim 21 (corresponding to original claim 25) depends from claim 1, and as *Hossain et al.* '620 fails to overcome the deficiencies of *Kumakhov* '008 with respect to claim 1, claim 21 is also allowable for at least the same reasons that claim 1 is allowable.

It is submitted that this application is in condition for allowance. Such action and the passing of this case to issue are requested.

Should the Examiner feel that a conference would help to expedite the prosecution of this application, the Examiner is hereby invited to contact the undersigned counsel to arrange for such an interview.

Should the remittance be accidentally missing or insufficient, the Commissioner is hereby authorized to charge the fee to our Deposit Account No. 18-0002, and advise us accordingly.

Respectfully submitted,



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AMENDMENT

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APPLICANT(S): Elisabeth Katz

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FOR: DEVICE FOR REALIZING AN ONLINE ELEMENT ANALYSIS

PAPERS FILED:

NATIONAL PHASE APPLICATION TRANSMITTAL LETTER (2 PAGES) ;

TRANSLATION OF APPLICATION INTO ENGLISH (22 PAGES) ;

PRELIMINARY AMENDMENT (7 PAGES) ;

INVENTOR'S DECLARATION AND POWER OF ATTORNEY (1 PAGE)

8 SHEETS OF FORMAL DRAWINGS (FIGS. 1-16) AND 8 SHEETS INFORMAL DRAWINGS;

COPY OF FORM PCT/IB/308 & INTERNATIONAL SEARCH REPORT;

INFORMATION DISCLOSURE STATEMENT/3 REFS ;

FORM PTO-2038 \$650.00;

FEES: \$650.00 (BY CREDIT CARD)

PLEASE DATE STAMP AND RETURN  
EARLY NOTIFICATION OF SERIAL NUMBER REQUESTED

